

**United States Department of Agriculture**



Natural Resources Conservation Service  
California State Office  
430 G Street, Room 4164  
Davis, CA 95616  
(530) 792-5600  
(530) 792-5790 (Fax)

**America's Conservation Agency**

January 16, 2007

Rudy Schnagl  
Central Valley Regional Water Quality Control Board  
11020 Sun Center Drive, Suite 200  
Rancho Cordova, CA 95670

Dear Rudy,

NRCS commends RB5 for inviting and considering comments made by this agency and other organizations. You have made several improvements to the recent administrative draft.

We offer the following comments and suggestions:

Waste Discharge Requirement General Order – A. Prohibitions

Item 2 states that the discharge of storm water from the production area is prohibited. In many instances, such as with guttered roofs, rain falls on non manured areas producing clean runoff. We suggest the prohibition apply only to “storm water that has come in contact with manure”.

Standard Provisions and Reporting Requirements

In item 8 we ask that federal officers (including NRCS staff) be excluded from the requirement to sign a certification statement.

Monitoring and Reporting Program

In item 6 we suggest that the term “monitor” be clarified in relation to irrigation water and rainfall. For purposes of irrigation scheduling we suggest that soil based crop water use methods be allowed.

In item 11 we suggest that the requirement of monitoring only apply to storm water that has contacted manured areas.

In item 17, Groundwater Monitoring, we see that a risk based ranking system has been developed to guide the Executive Officer's decisions on the need for onsite monitoring wells. However, we suggest that a regional grid network of monitoring wells combined with local deep soil testing for contaminant transport would provide a more conclusive and defensible evaluation of on farm manure management.

### Waste Management Plan for the Production Area – Item III

We don't believe the environmental gains justify the cost to perform the suggested level of flood inundation studies. In addition, these expenses will likely detract from other more critical dairy improvement actions, such as improvement of nutrient management infrastructure, which would have significant environmental benefits. We suggest appropriate response to flood inundation be based on actual local flooding experiences and proximity and relative elevation differences with water ways.

### Appendix C, Technical Standards

#### Item V.B.2 Nitrogen

This section requires tissue testing if the producer will apply more N to the current crop than was removed by the previous crop. We have three comments on this policy:

- 1) N removal by the current crop may be significantly more or less than the previous crop when it is a different crop. This can be expected in a double or triple crop situation. This policy will usually lead to predictable over or under N application, contradicting the goal of this section to apply N at an agronomic rate for the current crop. A preferred standard would be to have N applied at a rate based on historic removal rates for the crop and field in question. The first year may be based on limited information, but future years can be based on measured yields as required in the regulation.
- 2) Even assuming the producer will be required to apply nutrients using historic information for the same crop and field (above comment), requiring tissue testing before applying more N than that removed by the previous crop is difficult to justify scientifically. It is not possible to achieve 100% efficiency in N usage in these farming systems based on the chemical nature of nitrogen. Losses are inevitable from leaching, volatilization, and denitrification even when a field is very well managed. As a result, tissue sampling is very likely, predictably requiring additional N after any excess soil N pool has been exhausted. (This should be expected after a period of using the NMP). The producer must wait until the crop shows nutrient deficiency to justify more N application. The delay could postpone applications crucial to meeting crop uptake patterns. The Board should consider allowing soil testing as an alternative to tissue testing to establish the need for applications above the established threshold. The Board should consider a policy that better considers principles affecting N application rates, and clarify how application decisions may be made when timeliness is a concern. By imposing delays in nutrient application this policy could actually increase losses by reducing yields (and hence crop N uptake) to below expected levels used in planning application rates. The expense of testing should be considered also.

The University of California provided the report “Managing Dairy Manure in the Central Valley of California” to RB5 proposing a definition of the Agronomic Rate of N for crop production when using substantial amounts of manure as a nutrient source. In Chapter 5 it anticipates N loss from well managed forage systems typical of the Region, and recommends 1.4 to 1.65 times crop N removal as the range for an agronomic N rate. As an alternative to requiring tissue testing when applying more than 1.0 times Crop N Removal from the previous crop we suggest the Board allow a larger amount to account for reasonable losses, perhaps 1.2 or more times crop N removal, before requiring additional tests. This is below the lower 1.4 rate recommended by the University and so accounts for some uncertainty in their analysis. We also would support using 1.4 as the threshold for monitoring requirement. Monitoring for excess post harvest soil N called for in Monitoring and Reporting, Section A.8, should establish if 1.4 is too high for this purpose. This level will still require very precise control of manure application, which will be needed to limit leaching losses and maintain crop yields. Note: It is essential to maintain crop yields since that is the desired sink for applied N. Yield declines can lead to leaching losses even when the amount of N applied is correct based on historic yields. It is important not to impede the ability of the producer to respond to crop needs while also assuring guidelines are in place regarding application rates.

- 3) Section 2.a.iii in all practicality requires commercial N fertilizer applications after 1.0 times crop N removal. This will substantially affect the whole farm N balance, limiting manure N application to crop removal and increasing export from the dairy.

#### Item V.B.3.a

The “Important Note” in this section should include reasonable erosion *and runoff control* in the first paragraph.

#### Item V.C.2

This section should allow winter applications of process waste water when consistent with the NMP and when risk of runoff and leaching is controlled. Winter application can be important for obtaining needed crop production and nitrogen uptake. The NMP is in place to assure appropriate N is applied. Limiting winter applications when crops need nitrogen leaves more N in storage that must be applied later, and can disrupt the farm N balance required in the NMP. This requirement also contradicts C.3, which requires applying manure to meet crop uptake characteristics. C.2 allows application of commercial nutrients during the winter. Commercial nutrient application can be accounted for in the NMP while maintaining desired crop yield. Process wastewater should be allowed for the same reason, while also improving the farm N balance.

In general, NRCS supports a longer time line for implementation, due to the producer’s cost, the limited availability of technical and financial assistance available, and allowing partners such as CDQAP to develop and implement a compliance assistance program.

Thank you for the opportunity to comment on this administrative draft. Please let us know if you have any questions and, more importantly, if we can help formulate alternatives to some of the concerns we've raised. Refer questions and comments to Dan Johnson at (530) 792-5625.

CHARLES K. DAVIS  
State Conservation Engineer

Cc: Lincoln "Ed" Burton, STC, NRCS, Davis  
Luana Kiger, SASTC, NRCS, Davis  
Diane Holcomb, SRC, NRCS, Davis